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09/732,402	12/07/2000	Jun Kametani	P/2291-94	9886

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EXAMINER

TSEGAYE, SABA

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/732,402

Applicant(s)

KAMETANI, JUN

Examiner

Saba Tsegaye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 16, 17, 19, 22 and 24 is/are rejected.
- 7) ☒ Claim(s) 12, 14, 18, 20, 21 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4, 6, 8.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 10, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Barbour et al. (US 3,984,817).

Regarding claim 1, Barbour discloses, in Fig 1, a data searching system comprising:

a database for storing a plurality of pieces of data (108, a memory in which a plurality of programs are stored) (column 3, lines 3-17);

a search table for storing at least one piece of data which has been selected by the database (106, each entry in the search table comprises, for specifically identifying the entry to be the one corresponding to the received instruction) (column 3, lines 36-42); and

an address pointer table for storing location information indicating an entry address of each piece of data stored in the search table and/or relationship information among entry addresses of pieces of data stored in the search table (104; column 3, lines 46-62; column 4, lines 9-15).

Regarding claim 2, Barbour discloses the data searching system wherein the address pointer table (104) comprises a plurality of memory blocks (0-63) each having a fixed length on a recording medium, wherein the memory blocks are located at consecutive addresses,

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wherein each of the memory blocks comprises:

a first area for storing an entry address indicating a location of a corresponding piece of data stored in the search table (column 4, lines 9-30); and

a second area for storing one of a next block address and a bottom-indicating flag, the next block address indicating an address of a memory block storing data following the corresponding piece of data, and the bottom-indicating flag indicating that a current memory block is a bottom of a list (column 4, lines 31-65).

Regarding claim 3, Barbour discloses the data searching system further comprising:

a controller (instruction on line 100) controlling such that the search table is searched for a desired piece of data before the database and if a hit is found in the search table, then a found piece of data is used as a search result, and if no hit is found in the search table, then the database is searched for the desired piece of data and a found piece of data is used as a search result and is registered into the search table, wherein a piece of data with low retrieved frequency is deleted from the search table according to a predetermined condition and all linked memory blocks related to the deleted piece of data are released into available memory blocks (column 5, lines 4-49).

Regarding claim 10, Barbour discloses, in Fig. 1, a system comprising:

a first memory (108) for retrievably storing a plurality of entries (column 2, line 60-column 3, line 17);

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a second memory (106) for storing a copy of an entry that has been retrieved from the first memory to retrievably store a plurality of retrieved entries (column 3, lines 36-62);

a third memory (104) for storing a list of retrieved entries which are linked from leading one to a bottom one (column 3, lines 18-33); and

a data controller (instruction on line 100) for accessing a desired retrieved entry by referring to the list stored in the third memory (column 2, line 60-column 3, line 5).

Regarding claim 11, Barbour discloses the system wherein the data controller process the desired retrieved entry so as to be consistent with a corresponding entry stored in the first memory when the corresponding entry has been processed (column 2, line 60-column 3, line 17).

Regarding claim 13, Barbour discloses the system wherein the list of retrieved entries comprised a plurality of memory blocks each corresponding to the retrieved entries, each of the memory blocks comprising an address of a corresponding retrieved entry in the second memory and a next pointer indicating one of an address of a next memory block following the memory block and an address of the memory block itself (column 3, lines 54-62; column 4, lines 31-65).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 4-9, 16, 17, 19, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al. (US 6,553,002) in view of Barbour et al. (US 3,984,817).

Regarding claims 4-7, 16 and 17, Barbour discloses all the claim limitations as stated above. Further, Barbour discloses a scheme of queuing an entries in search table so that the most recently used entry and least recently used entry are at opposite ends of the queue, then the least recently used entries and therefore their associated program are substituted for by newly built programs and queues are updated accordingly.

However, Barbour does not expressly disclose a packet processing system comprising: a microprocessor, a routing table, which is used to increase in search speed for packet forwarding.

Bremer discloses, in Fig. 2, a packet processing system comprising: a microprocessor that executes a program in memory will search a routing table stored in memory portion of the route table and lookup. Using the routing table the microprocessor will determine the next router that the data packet is sent to a destination.

It would have been obvious to one ordinary skill in the art at the time the invention was made to use the teachings from Bermer of substituting the packet processing system to the data processing system disclosed by Barbour. One of ordinary skill in the art would have been motivated to do this because substituting the packet processing system provides an apparatus for rapidly routing data packets through a communications network and for rapidly traversing a routing table in a router to determine a next router in a path of a data packet as it moves towards a destination terminal.

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Regarding claim 8, Barbour discloses the data searching system wherein the address pointer table (104) comprises a plurality of memory blocks (0-63) each having a fixed length on a recording medium, wherein the memory blocks are located at consecutive addresses,

wherein each of the memory blocks comprises:

a first area for storing an entry address indicating a location of a corresponding piece of data stored in the search table (column 4, lines 9-30); and

a second area for storing one of a next block address and a bottom-indicating flag, the next block address indicating an address of a memory block storing data following the corresponding piece of data, and the bottom-indicating flag indicating that a current memory block is a bottom of a list (column 4, lines 31-65).

Regarding claim 9, Barbour discloses all the claim limitations as stated above. Further, Barbour discloses a system that upon a hit or a new program addition search table and pointers are updated. Pointers for the respective entries in search table are updated in order to indicate the more recently used entries.

However, Barbour does not expressly disclose a packet processing system comprising: a microprocessor, a routing table, which is used to increase in search speed for packet forwarding.

Bremer discloses, in Fig. 2, a packet processing system comprising: a microprocessor that executes a program in memory will search a routing table stored in memory portion of the route table and lookup. Using the routing table the microprocessor will determine the next router that the data packet is sent to a destination.

It would have been obvious to one ordinary skill in the art at the time the invention was made to use the teachings from Berner of substituting the packet processing system to the data processing system disclosed by Barbour. One of ordinary skill in the art would have been motivated to do this because substituting the packet processing system provides an apparatus for rapidly routing data packets through a communications network and for rapidly traversing a routing table in a router to determine a next router in a path of a data packet as it moves towards a destination terminal.

Regarding claim 19, Barbour discloses the system wherein the list of retrieved entries comprised a plurality of memory blocks each corresponding to the retrieved entries, each of the memory blocks comprising an address of a corresponding retrieved entry in the second memory and a next pointer indicating one of an address of a next memory block following the memory block and an address of the memory block itself (column 3, lines 54-62; column 4, lines 31-65).

Regarding claims 22 and 24, Barbour discloses all the claim limitations as stated above. Further, Barbour discloses a data processing system and a scheme of queuing an entries in search table so that the most recently used entry and least recently used entry are at opposite ends of the queue, then the least recently used entries and therefore their associated program are substituted for by newly built programs and queues are updated accordingly (column 5, lines 4-49).

However, Barbour does not expressly disclose a packet switching system.

Bremer discloses, in Fig. 2, a packet processing system comprising: a microprocessor that executes a program in memory will search a routing table stored in memory portion of the route



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table and lookup. Using the routing table the microprocessor will determine the next router that the data packet is sent to a destination.

It would have been obvious to one ordinary skill in the art at the time the invention was made to use the teachings from Bermer of substituting the packet processing system to the data processing system disclosed by Barbour. One of ordinary skill in the art would have been motivated to do this because substituting the packet processing system provides an apparatus for rapidly routing data packets through a communications network.

#### ***Allowable Subject Matter***

5. Claims 12, 14, 15, 18, 20, 21 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Min (US 5,940,837) discloses a method and apparatus for recovering erased calling messages in Radio pager.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (703) 308-4754. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST  
April 28, 2004

  
JOHN PEZZLO  
PRIMARY EXAMINER